



Case HF/5-22105/A/PCT

Declaration

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE PCT NATIONAL STAGE APPLICATION OF Group Art Unit: 1751

PETR KVITA ET AL

SERIAL NO.: 10/089,850

FILED: September 4, 2002

FOR: Fabric Softener Composition

DECLARATION UNDER RULE 132

I, Mario Dubini, a citizen of Switzerland residing in Niederdorf (Baselland),
Switzerland hereby declare:

1. That I was awarded the Technical Laboratory Assistant in 1974 in Basel, Switzerland.
2. That I have been employed by Ciba Specialty Chemicals as a Technical Laboratory Assistant since April 1974.
3. That I presently hold the position of a Head of Application Laboratory Fabric Surface Modification in Grenzach, Germany.
5. That I consider myself an expert in the field of Textile dying, finishing, care, especially laundry processes.
6. That I prepared the test protocoll and performed the application tests of the compounds herein described in strict accordance with my statements in the Declaration.

The following test serves to demonstrate that the combination of polyorganosiloxane and polyethylene in a softener composition improves the abrasion resistance of fabrics.

The following three softener compositions have been used:

Softener Composition A (Polydimethylsiloxane only, Prior Art)

16.7 wt-%	Di(tallowoyloxyethyl)(2-hydroxyethyl)methyl ammonium methyl sulfate (90 % solution = 15 wt-% softener)
8.8 wt-%	emulsified Polydimethylsiloxane (PDMS) with 350 cSt (22.7% solution = 2 wt-% PDMS)
74.5 wt-%	water

Softener Composition B (Polyethylene only, Prior Art)

16.7 wt-%	Di(tallowoyloxyethyl)(2-hydroxyethyl)methyl ammonium methyl sulfate (90 % solution = 15 wt-% softener)
3 wt-%	Velustrol P-40 (polyethylene)
80.3 wt-%	water

Softener Composition C (PDMS and Polyethylene, Invention)

16.7 wt-%	Di(tallowoyloxyethyl)(2-hydroxyethyl)methyl ammonium methyl sulfate (90 % solution = 13.5 wt-% softener)
8.8 wt-%	emulsified PDMS with 350 cSt (22.7% solution = 2 wt-% PDMS)
3 wt-%	Velustrol P-40 (polyethylene)
71.5 wt-%	water

The following washing and rinsing conditions are used:

ECE 77 standard laundry detergent (ISO 105-C06):

8 %	Linear sodium alkyl benzene sulfonate (mean length of alkane chain $C_{11,5}$)
2.9 %	Ethoxylated tallow alcohol (14 EO)
3.5 %	Sodium soap, chain length (C_{12} - C_{16} : 13 - 26 % C_{18} - C_{22} : 74 - 87 %)
43.8 %	Sodium tripolyphosphate
7.5 %	Sodium silicate ($SiO_2/Na_2O = 3,3/1$)
1.9 %	Magnesium silicate
1.2 %	Carboxymethylcellulose (CMC)
0.2 %	EDTA, sodium salt
21.2 %	Sodium sulfate
9.8 %	Water

Washing machine: AEG, Ökolavamat 73729

Washing process: short color cycle at 40°C
33g ECE 77 standard laundry detergent / 1 kg wash load,
Spin speed 400 rpm
Total time: 53 minutes
13.3g softener / 1 kg wash load

Wash load: 1 kg fabric (inclusive Polyester-ballast material)

Drying: Drying on the line at room temperature

After each washing and rinse process a washing cycle without any textile (to clean the drum and the softener dispenser of the machine) has been made:

AEG, Ökolavamat 73729 short cycle at 95°C
40g ECE 77 standard laundry detergent

TEST : Determination of the abrasion resistance of fabrics (ISO 12947-2)

Used textile:

Cotton/Polyester (67/33) (without finishing; 127gm⁻²; 35cm x 35cm)

Procedure for measuring the abrasion resistance of fabrics:

The method is done according to the standardized test method ISO 12947-2 (with a Martinsdale abrasion testing machine):

A test specimen, mounted in a specimen holder and subjected to a defined load (595 g), is rubbed against an abrasive medium (standard fabric) in a translational movement tracing a Lissajous figure, the specimen holder being additionally freely rotatable around its own axis perpendicular to the plane of the specimen. The evaluation of the abrasion resistance of the textile fabric is determined by the number of rubs at the moment, when three separate threads of the fabric are completely broken.

The results of the test are summarized in the following table 1.

Table 1:

	Softener A	Softener B	Softener C
Grade	10'000	10'000	11'000

The fabric treated with the inventive formulation shows an improved abrasion resistance in comparison to the softener of the prior art.

This behavior could not be expected by a person having ordinary skill in the art.

I, Mario Dubini, finally declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 101 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed this 6th. day of April 2004

A handwritten signature in cursive script, appearing to read "Mario Dubini", written over a horizontal line.

Mario Dubini